

Application No. 10/614,148

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AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

8. (Currently Amended) A process for producing an electroluminescent device, comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode and an electroluminescent phosphor layer sandwiched between said transparent or translucent first electrode and said second conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in which said two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge, comprising the steps of: (i) coating a transparent or translucent support with a solution, a dispersion or a paste of a polymer or copolymer of a 3,4-dialkoxythiophene to produce said transparent or translucent first conductive layer; (ii) coating said first conductive layer with a layer comprising an electroluminescent phosphor; (iii) ~~optionally~~ coating said layer comprising an electroluminescent phosphor with a dielectric layer; and (iv) coating said dielectric layer ~~if present, or said layer comprising the electroluminescent phosphor if no dielectric layer is present,~~ with a solution, dispersion or paste comprising a polymer or copolymer of a 3,4-dialkoxythiophene to produce said second conductive layer, wherein said polymer or copolymer of said 3,4-dialkoxythiophene in the solution, dispersion or paste used in step (i) may be the same or different from said polymer or copolymer of said 3,4-dialkoxythiophene used in the solution, dispersion or paste used in step (iv).

9. (Currently Amended) The process ~~Process~~ according to claim 8, wherein said paste is an aqueous paste.

10. (Currently Amended) The process ~~Process~~ according to claim 8, wherein said ~~transparent~~ solution or dispersion is an aqueous solution or dispersion.

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11. (Currently Amended) A process for producing an electroluminescent device, comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode and an electroluminescent phosphor layer sandwiched between said transparent or translucent first electrode and said second conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in which said two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge, comprising the steps of: (i) coating a support with a solution, dispersion or paste comprising a polymer or copolymer of a (3,4-dialkoxythiophene) to produce said second conductive layer; (ii) optionally coating said second conductive layer with a dielectric layer; (iii) coating said dielectric layer if present, or said second conductive layer if no dielectric layer is present, with a layer comprising an electroluminescent phosphor; and (iv) coating said layer comprising said electroluminescent phosphor with a transparent solution, dispersion or paste comprising a polymer or copolymer of a (3,4-dialkoxythiophene) to produce said transparent or translucent first conductive layer, wherein said polymer or copolymer of a (3,4-dialkoxythiophene) in said solution, dispersion or paste used in step (i) may be the same or different from said polymer or copolymer of a (3,4-dialkoxythiophene) used in said transparent solution, dispersion or paste used in step (iv).

12. (Currently Amended) The process ~~Process~~ according to claim 11, wherein said paste is an aqueous paste.

13. (Currently Amended) The process ~~Process~~ according to claim 11, wherein said transparent paste is an aqueous transparent paste.

14. (Original) A process comprising the steps of: using a transparent paste comprising a polymer or copolymer of a 3,4-dialkoxythiophene, a polyacrylate thickener and a glycol derivative, and optionally a surfactant for producing an electrode of an electroluminescent device comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode and an electroluminescent phosphor layer sandwiched between said transparent or translucent first electrode and said second conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in which said two

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alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge.

15. (Original) A process comprising the steps of: using an electroluminescent device, comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode and an electroluminescent phosphor layer sandwiched between said transparent or translucent first electrode and said second conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in which said two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge, in illuminated posters and signage.

16. (New) A process for producing an electroluminescent device, comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode and an electroluminescent phosphor layer sandwiched between said transparent or translucent first electrode and said second conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in which said two alkoxy groups are represented by $-OR^1$ and $-OR^2$ where each of R^1 and R^2 independently represents a C1-C4 alkyl group or together represent an optionally substituted C1-4 alkylene group or a cycloalkylene group, comprising the steps of: (i) coating a transparent or translucent support with a solution, a dispersion or a paste of a polymer or copolymer of a 3,4-dialkoxythiophene to produce said transparent or translucent first conductive layer; (ii) coating said first conductive layer with a layer comprising an electroluminescent phosphor; (iii) optionally coating said layer comprising an electroluminescent phosphor with a dielectric layer; and (iv) coating said dielectric layer if present, or said layer comprising the electroluminescent phosphor if no dielectric layer is present, with a solution, dispersion or paste comprising a polymer or copolymer of a 3,4-dialkoxythiophene to produce said second conductive layer, wherein said polymer or copolymer of said 3,4-dialkoxythiophene in the solution, dispersion or paste used in step (i) may be the same or different from said polymer or copolymer of said 3,4-dialkoxythiophene used in the solution, dispersion or paste used in step (iv).

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17. (New) The process according to claim 16, wherein said paste is an aqueous paste.
18. (New) A process for producing an electroluminescent device, comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode and an electroluminescent phosphor layer sandwiched between said transparent or translucent first electrode and said second conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in which said two alkoxy groups are represented by $-OR^1$ and $-OR^2$ where each of R^1 and R^2 independently represents a C1-C4 alkyl group or together represent an optionally substituted C1-4 alkylene group or a cycloalkylene group, comprising the steps of: (i) coating a support with a solution, dispersion or paste comprising a polymer or copolymer of a (3,4-dialkoxythiophene) to produce said second conductive layer; (ii) optionally coating said second conductive layer with a dielectric layer; (iii) coating said dielectric layer if present, or said second conductive layer if no dielectric layer is present, with a layer comprising an electroluminescent phosphor; and (iv) coating said layer comprising said electroluminescent phosphor with a transparent solution, dispersion or paste comprising a polymer or copolymer of a (3,4-dialkoxythiophene) to produce said transparent or translucent first conductive layer, wherein said polymer or copolymer of a (3,4-dialkoxythiophene) in said solution, dispersion or paste used in step (i) may be the same or different from said polymer or copolymer of a (3,4-dialkoxythiophene) used in said transparent solution, dispersion or paste used in step (iv).
19. (New) The process according to claim 18, wherein said transparent solution or dispersion is an aqueous solution or dispersion.
20. (New) The process according to claim 18, wherein said paste is an aqueous paste.
21. (New) The process according to claim 18, wherein said transparent paste is an aqueous transparent paste.
22. (New) A process for producing an electroluminescent device, comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode and an electroluminescent phosphor layer sandwiched between said

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transparent or translucent first electrode and said second conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in which said two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge, comprising the steps of: (i) coating a transparent or translucent support with a solution, a dispersion or a paste of a polymer or copolymer of a 3,4-dialkoxythiophene to produce said transparent or translucent first conductive layer; (ii) coating said first conductive layer with a layer comprising an electroluminescent phosphor; (iii) optionally coating said layer comprising an electroluminescent phosphor with a dielectric layer; and (iv) coating said dielectric layer if present, or said layer comprising the electroluminescent phosphor if no dielectric layer is present, with a solution, dispersion or paste comprising a polymer or copolymer of a 3,4-dialkoxythiophene to produce said conductive layer, wherein said polymer or copolymer of said 3,4-dialkoxythiophene in the solution, dispersion or paste used in step (i) may be the same or different from said polymer or copolymer of said 3,4-dialkoxythiophene used in the solution, dispersion or paste used in step (iv) and wherein said electroluminescent phosphor belongs to the class of II-VI semiconductors or is a combination of a group II element with an oxidic anion.

23. (New) The process according to claim 22, wherein said paste is an aqueous paste.

24. (New) A process for producing an electroluminescent device, comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode and an electroluminescent phosphor layer sandwiched between said transparent or translucent first electrode and said second conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in which said two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge, comprising the steps of: (i) coating a support with a solution, dispersion or paste comprising a polymer or copolymer of a (3,4-dialkoxythiophene) to produce said second conductive layer; (ii) optionally coating said second conductive layer with a dielectric layer; (iii) coating said dielectric layer if present, or said second conductive layer if no dielectric layer is present, with a layer comprising an electroluminescent phosphor; and (iv) coating said layer comprising said electroluminescent phosphor with a transparent solution,

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dispersion or paste comprising a polymer or copolymer of a (3,4-dialkoxythiophene) to produce said transparent or translucent first conductive layer, wherein said polymer or copolymer of a (3,4-dialkoxythiophene) in said solution, dispersion or paste used in step (i) may be the same or different from said polymer or copolymer of a (3,4-dialkoxythiophene) used in said transparent solution, dispersion or paste used in step (iv) and wherein said electroluminescent phosphor belongs to the class of II-VI semiconductors or is a combination of a group II element with an oxidic anion.

25. (New) The process according to claim 24, wherein said transparent solution or dispersion is an aqueous solution or dispersion.

26. (New) The process according to claim 24, wherein said paste is an aqueous paste.

27. (New) The process according to claim 24, wherein said transparent paste is an aqueous paste transparent paste.

28. (New) A process for producing an electroluminescent device, comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode and an electroluminescent phosphor layer sandwiched between said transparent or translucent first electrode and said second conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in which said two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge, comprising the steps of: (i) coating a transparent or translucent support with a solution, a dispersion or a paste of a polymer or copolymer of a 3,4-dialkoxythiophene to produce said transparent or translucent first conductive layer; (ii) coating said first conductive layer with a layer comprising an electroluminescent phosphor; (iii) optionally coating said layer comprising an electroluminescent phosphor with a dielectric layer; and (iv) coating said dielectric layer if present, or said layer comprising the electroluminescent phosphor if no dielectric layer is present, with a solution, dispersion or paste comprising a polymer or copolymer of a 3,4-dialkoxythiophene to produce said conductive layer, wherein said polymer or copolymer of said 3,4-dialkoxythiophene in the solution, dispersion or paste used in step (i) may be the same or different from said polymer or copolymer of said 3,4-dialkoxythiophene used in the solution,

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dispersion or paste used in step (iv) and wherein at least one of said two electrodes further comprises a polyanion compound.

29. (New) A process for producing an electroluminescent device, comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode and an electroluminescent phosphor layer sandwiched between said transparent or translucent first electrode and said second conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in which said two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge, comprising the steps of: (i) coating a support with a solution, dispersion or paste comprising a polymer or copolymer of a (3,4-dialkoxythiophene) to produce said second conductive layer; (ii) optionally coating said second conductive layer with a dielectric layer; (iii) coating said dielectric layer if present, or said second conductive layer if no dielectric layer is present, with a layer comprising an electroluminescent phosphor; and (iv) coating said layer comprising said electroluminescent phosphor with a transparent solution, dispersion or paste comprising a polymer or copolymer of a (3,4-dialkoxythiophene) to produce said transparent or translucent first conductive layer, wherein said polymer or copolymer of a (3,4-dialkoxythiophene) in said solution, dispersion or paste used in step (i) may be the same or different from said polymer or copolymer of a (3,4-dialkoxythiophene) used in said transparent solution, dispersion or paste used in step (iv) and wherein at least one of said two electrodes further comprises a polyanion compound.

30. (New) A process for producing an electroluminescent device, comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode and an electroluminescent phosphor layer sandwiched between said transparent or translucent first electrode and said second conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in which said two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge, comprising the steps of: (i) coating a transparent or translucent support with an aqueous solution, an aqueous dispersion or an aqueous paste of a polymer or copolymer of a 3,4-dialkoxythiophene to produce said transparent or translucent first conductive layer; (ii) coating said first conductive layer with

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a layer comprising an electroluminescent phosphor; (iii) optionally coating said layer comprising an electroluminescent phosphor with a dielectric layer; and (iv) coating said dielectric layer if present, or said layer comprising the electroluminescent phosphor if no dielectric layer is present, with an aqueous solution, an aqueous dispersion or an aqueous paste comprising a polymer or copolymer of a 3,4-dialkoxythiophene to produce said conductive layer, wherein said polymer or copolymer of said 3,4-dialkoxythiophene in the aqueous solution, aqueous dispersion or aqueous paste used in step (i) may be the same or different from said polymer or copolymer of said 3,4-dialkoxythiophene used in the aqueous solution, aqueous dispersion or aqueous paste used in step (iv).

31. (New) A process for producing an electroluminescent device, comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode and an electroluminescent phosphor layer sandwiched between said transparent or translucent first electrode and said second conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in which said two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge, comprising the steps of: (i) coating a support with an aqueous solution, an aqueous dispersion or an aqueous paste comprising a polymer or copolymer of a (3,4-dialkoxythiophene) to produce said second conductive layer; (ii) optionally coating said second conductive layer with a dielectric layer; (iii) coating said dielectric layer if present, or said second conductive layer if no dielectric layer is present, with a layer comprising an electroluminescent phosphor; and (iv) coating said layer comprising said electroluminescent phosphor with a transparent aqueous solution, an aqueous dispersion or an aqueous paste comprising a polymer or copolymer of a (3,4-dialkoxythiophene) to produce said transparent or translucent first conductive layer, wherein said polymer or copolymer of a (3,4-dialkoxythiophene) in said aqueous solution, aqueous dispersion or aqueous paste used in step (i) may be the same or different from said polymer or copolymer of a (3,4-dialkoxythiophene) used in said transparent aqueous solution, aqueous dispersion or aqueous paste used in step (iv).